MANVANTARA-CATURYUGA METHOD
(as employed in Purāṇas for chronological computations)

By
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In my papers on 'The Yugas[1]' and 'The Manvantara[2]', after examining the question of Yugas and Manvantara, I have based the following conclusions. (1) All the Yugas, at first, had equal number of years, each having 1000 years at first and then 1200 years, the total of four Yugas being at first 4000 years and then 4800 years. (2) Yugas were computed at various figures, so were caturyugas. (3) Manvantara was used in two senses: (*a*) period from one Manu (Manu being a generic dynastic title for a king) to another Manu, or (*b*) period from a Manu (starter of a dynasty) to any king of his line. (4) Caturyuga in the usual Puranic formula 'caturyugānāṃ hi saṁkhyātā sādhikā hyekasaptatiḥ manvantaram' was computed at 40 years. (5) I have further suggested that the Purāṇas employ what I call Manvantara-caturyuga method for longer chronological computations. The method was employed thus. They took a unit of 40 years (termed as caturyuga) and in a given dynasty they kept as many kings as the units of 40 years were required. If a dynasty lasted for 200 years and even if during these 200 years there ruled ten kings of that dynasty, the Purāṇas would keep only five prominent names and omit others, for they would require five units of 40 years (i.e. five caturyugas) each. Thus in our Puranic genealogical tables of Solar and Lunar branches, the kings who are enumerated are really speaking caturyugas or king-units or regnal units of 40 years each (of course, on an average). This is what I mean by Manvantara-caturyuga method. (6) I have also shown that such Manvantara-caturyuga computations were made particularly in the days of the 71st, 72nd and 73rd kings, and more particularly in the days of 72nd king. It is, therefore, that we have Manvantara (= total regnal period of a dynasty upto a particular point) equal to 71 caturyugas.

I shall, here, show how this method is actually used in our Puranic genealogies.

1 See Poona Orientalist, April 1942.
2 See IHQ (article appearing shortly).

1. Manvantara of 71 Caturyugas

Let us see if manvantara computations were made in the reign of the 72nd king.

This tradition of 71 kings or caturyugas in one manvantara is found in the Purāṇas in one other connection also. In most of the Purāṇas, which give full lists of Solar and Lunar dynasties, the dynasties stop with Sumitra and Kṣemaka respectively. But after all the dynastic lists are over, there are certain general concluding remarks made in almost all such Purāṇas. They are important. I shall quote relevant portions of these remarks from two or three sources.

In Matsya it is said in these concluding remarks: (273rd)

एवं राजर्षयोऽतीताः शतशोऽथ सहस्रशः ॥१४
मनोर्वैवस्वतस्यासन्वर्तमानेऽन्तरे विभो ।
तेषां तु निधनोत्पत्तौ लोकसंस्थितयः स्थिताः ॥१५
न शक्यो विस्तरस्तेषां संतानस्य परस्परम् ।
तत्पूर्वापरयोगेन वक्तुं वर्षशतैरपि ॥१६
अष्टाविंशत्समाख्याता गता वैवस्वतेऽन्तरे ।
एते देवगणैः सार्धं शिष्टा ये तान्निबोधत ॥१७
चत्वारिंशत्त्रयश्चैव भविष्यास्ते महात्मनः ।
अवशिष्टा युगाख्यास्ते ततो वैवस्वतो ह्ययम् ॥१८

In Vāyu similar verses are found; the last two verses read thus: (99th).

अष्टाविंशद्युगाख्यास्तु गता वैवस्वतेऽन्तरे ।
एता राजर्षिभिः सार्धं शिष्टा यास्ता निबोधत ॥४५९
चत्वारिंशच्च यैः चैव भविष्या सह राजभिः ।
युगाख्यानां विशिष्टास्तु ततो वैवस्वतक्षये ॥४६०

In Brahmāṇḍa (3,74) these verses read thus:

अष्टाविंशद्युगाख्यास्तु गता वैवस्वतेऽन्तरे ॥२१२
एतै राजर्षिभिः सार्धं शिष्टा यास्ता निबोधत ।
चत्वारिंशत्त्रयश्चैव भविष्या सह राजभिः ॥२१३
युगाख्यानावशिष्टास्तु ततो वैवस्वतक्षयः ।

It will be seen that Brahmāṇḍa reading is the best. These verses say that, so far 28 yugākhyās have elapsed and 43 more yugākhyās are to elapse yet. Here yugākhyā is the same

as caturyuga.[1] Thus it is said that 28 caturyugas have passed so far and 43 more are to pass. Then there will be 'vaivasvatakṣaya'. This evidently means that 28 caturyugas of a manvantara have passed and 43 are to pass. Thus a manvantara had 71 caturyugas.

On reading the above statements of the Purāṇas that 28 caturyugas have passed, we are at once reminded that according to our traditional calculation, we are, now, in the 7th manvntara's 29th caturyuga, 28 caturyugas having already passed. Of course, traditionally it is said that at present 6 manvantaras, 28 caturyugas and 3 yugas have passed. This will again remind us that according to Āryabhaṭṭa 6 manus, 27 caturyugas and 3 yugas have passed.

Why is it so universally believed that 28 or 27 caturyugas of the 7th manvantara have passed? Let us see.

When were the 28 caturyugas over according to the above verses? These concluding remarks are put after Solar and Lunar lines are all over; and the obvious conclusion is that before Sumitra and Kṣemaka, who are pronounced to be the last of the Aikṣavākus and Ailas, 28 caturyugas were over. Taking caturyuga to be a ruling generation it would mean that before Sumitra 28 kings had passed. But of which manvantara 28 kings had passed? The calculation cannot be from Manu Vaivasvata, for, according to Purāṇas, as we find them to-day, Sumitra was about 120th from Manu and not 28th or 29th.

My explanation is this. I suggest that when the 71st king from Manu Vaivasvata was dead, one manvantara was actually taken as closed and another Manvantara was taken as started. I shall later give my evidence for this statement, but taking for the present that after the reign of the 71st king was over, a new manvantara was taken as started, we can say that Sumitra should have been the 29th king of that manvantara or, in other words, he should have been the 29th king after the 71st king from Manu Vaivasvata. Then it would be said that of this new manvantara (which would be taken as started with the accession of the 72nd king) 28 caturyugas or ruling generations had passed before Sumitra. But from which king was Sumitra the 29th king? When was the new manvantara taken as started? Who was the 71st king after whom Sumitra was 29th?

1 Cp. Mbh. (Vana, 188, 38) एषा द्वादशसाहस्री युगाख्या परिकीर्तिता, where yugākhyā is clearly used in the sense of caturyuga.

We shall examine Sumitra's descent. Starting from the close of the Mahābhārata war, we get the following genealogy of the Solar line in different Purāṇas.

TABLE I

No.	Vāyu	Viṣṇu	Matsya	Bhāgavata	Bhaviṣya	Garuḍa
1	Bṛhadbala	...*	...	...	...	...
2	Brhatkṣaya	...		...	Bṛhadaiśāna Maukṣepa	
3	Kṣaya	Urukṣaya	Kṣaya	Urukriya	Vatsapāla	Kṣaya
4	Vatsavyūha	...	Vatsadroha	...	...	...
5	Prativyūha	...	...	...	...	Bṛhadaiva
6	Divākara	...	...	...	...	
7	Sahadeva	...	...	...	...	
8	Bṛhadaśva	...	Dhṛvāśva	...	...	
9	Bhānuratha	...	Mahābhāga	...	...	...
10	Pratītāśva	...	...	...		...
11	Supratīta	...	...	...	...	...
12	Sahadeva	Marudeva	...	...	...	Manudeva
13	Sunakṣatra	...	...	...	...	...
14	Kinnara	...	...	...	...	...
15	Antarikṣa	...	...		...	...
16	Suparṇa	...	Suṣena	...	...	...
17	Amitrājit	...	...	...	...	...
18	Bharadvāj	...	...	...	...	...
19	Dharmī	...		...	...	
20	Vrāta	Kṛtañjaya	...	...	...	...
21	Raṇañjaya	...	...	...	...	...
22	Sañjaya	...	...	...	...	...
23	S'ākya	...	...	...	...	...
24	S'uddhodana	...	...		...	...
			Siddhārtha			
25	Rāhula	...	...	...	...	...
26	Prasenajit	...	...	...	...	...
27	Kṣudraka	...	...	...	...	...
28	Kṣulika	...	...	...		Sammitra
29	Suratha	...	...	...	...	...
30	Sumitra	...	...	...	...	...
	30	30	29	28	29	25

* Three dotted lines show that the same name occurs in the Purāṇa.

From this table we find that according to Vāyu and Viṣṇu, Sumitra was 30th from Bṛhadbala, according to Matsya and Bhaviṣya he was 29th, according to Bhāgavata he was 28th and according to Garuḍa he was 25th from Bṛhadbala who was killed in the Mahābhārata war. Mr. Sita Nath Pradhan, who has tried to reconstruct this line, puts Sumitra as 28th from Bṛhadbala, but he admits that both Vrāta and Raṇañjaya ruled separately and thus even according to Mr. Pradhan, taking the ruling generations, Sumitra was 29th from Bṛhadbala.[1] I, however, suggest that according to Purāṇas, as Vāyu and Viṣṇu have it, Sumitra was 30th from Bṛhadbala. The discussion that now follows is by itself the proof of this.

Now let us take the Lunar line from Mahābhārata war. From Abhimanyu to Kṣemaka we have 26 to 30 kings (both inclusive). I shall give the table.

TABLE II

No.	Viṣṇu	Matsya	Garuḍa	Bhāgavata	Vāyu
1	Abhimanyu	...	...	...	...
2	Parikṣit	...	...	...	...
3	Janamejaya	...	...	...	...
4	S'atānika I	...	...	...	...
5	Aśvamedhadatta		...	Sahasrānika	...
6	Adhisīmakṛṣṇa	...	...	...	...
7	Nicaknu	Vivakṣu	Kṛṣṇa	Nemicakra	...
8	Uṣṇa	Bhuri*	Aniruddha		...
9	Vicitraratha	...	...	...	...
10	S'uciratha	...		Kaviratha	..
11	Vṛṣṇiman	...	...	...	Dhṛtiman
12	Suṣeṇa	...	...	...	...
13	Sunītha	...	...	...	Sutīrtha Ruca
14	Nṛpacakṣu	...	...	...	...
15	Sukhibala	...	...	...	...
16	Pariplava	...		...	...
17	Sunaya	Sutapā		...	...
18	Medhāvi	...	...	...	...
19	Ripuñjaya	Purañjaya	Nṛpañjaya	...	
20	Mṛdu	Ūrva	Hari	Durvā	

1 See his chronology of Ancient India, pp. 250-253. Mr. Pargiter's text accepts 30 kings.

* Named as Bhūmi in a Ms. of Mt. (Imt of Pargiter.)

21	Tigma	...	...	Timi	
22	Bṛhadratha	...	...	...	
23	Vasudāna	...		Sudāsa	
24	S'atānika II	...	...	...	
25	Udayana	...	...	Durdamana	
26	Ahīnara	Vahinara	...	...	
27	Daṇḍapāṇi	...	...	...	...
28	Naramitra	...	...		...
29	Kṣemaka	...	...	...	...
	29	28	26	27	22+8=30

It will be seen from this that from Abhimanyu, who, like Bṛhadbala, died in the Mahābhārata war, to Kṣemaka, the last of the line, we have 29 according to Vn, 28 according to Mt, 27 according to Bg, 26 according to Gd and 22 according to Vy. But in Vāyu there is a gap of eight kings from Ripuñjaya to Ahinara. Therefore, according to Vāyu there were 30 kings. Moreover, Vāyu is explicit about this. It explicitly declares that there will be 25 future kings, i. e. 25 from Adhisīma to Kṣemaka (for Adhisīma was the sāmprata king) both inclusive.[1] Thus even in this line, we have 30 kings from Abhimanyu, i. e. from the close of the Mahābhārata war.

Both Bṛhadbala and Abhimanyu were killed in the great war. From them the last kings in their lines viz. Sumitra and Kṣemaka were 30th in number. In both these lists, Divākara and Adhisīmakṛṣṇa are taken as sāmprata kings, i. e. Purāṇas were closed in their days. From Divākara to Sumitra and from Adhisīma to Kṣemaka there were 25 kings (both inclusive).

Now according to Purāṇas, as quoted above, with Sumitra and therefore also with Kṣemaka, 28 caturyugas, i. e. ruling generations had passed and 29th was passing. This was in the new manvantara. That is, both Sumitra and Kṣemaka should be 29th after the death of the 71st king with whom one manvantara would be over and another would start. Now in order that Sumitra and Kṣemaka should be 29th after the death of the 71st king, Bṛhadbala and Abhimanyu should be taken as 71st kings. Therefore, manvantara was taken as closed with the end of the Mahābhārata war or with the death of Bṛhadbala Abhimanyu.

1 See Vy. 99, पञ्चविंश नृपा ह्येते भविष्या पूर्ववंशजाः । २११

Therefore in the Solar line, I take Bṛhadbala to be the 71st and in the Lunar line, Abhimanyu to be the 71st. Sumitra thus will be 29th after Bṛhadbala, 25th from Divākara the sāmprata king and 100th from Vaivasvata Manu.[1] Similarly, Kṣemaka will be 29th after Abhimanyu, 25th from Adhisīmakṛṣṇa and 100th from Vaivasvata Manu. I know that according to the present Purāṇas the actual numbers of Bṛhadbala and Abhimanyu are not what I have given above. But I have shown elsewhere[2] that Bṛhadbala's number was originally 71st. This will apply to Abhimanyu also.

Thus it would be said that with Sumitra and Kṣemaka 28 caturyugas had been over and 29th was passing (or three quarters of the 29th had passed)

Now Āryabhaṭṭa, who takes manvantara to have 72 caturyugas, is bound to say that of the new manvantara, 27 caturyugas and 3 yugapādas had elapsed. If after the death of the 71st king, 28 caturyugas had gone after the death of the 72nd king, 27 caturyugas had gone. Thus it will be seen that the usual calculation is made after the death of Abhimanyu, while Āryabhaṭṭa's calculation is made after the death of Parikṣit. But both come down to the same point i.e. Sumitra. Thus the discrepancy of one caturyuga seen in Āryabhaṭṭa's statement is due to the fact that he took the manvantara as closed after the death of the 72nd king and not after the death of the 71st king as the usual calculation does.

It may be here objected that Āryabhaṭṭa's calculation is from the beginning of the Kalpa to the Mahābhārata war and not from the Mahābhārata war to Sumitra as I have suggested. That is how his statement is usually interpreted. Let us see how the matter stands. Here is his statement :

काहो मनवो ढ (२४) मनुयुगाश्च (१२) गतास्ते च (६) मनुयुगछ्ना (२७) च ।
। (३) च गुरुदिवसाच्च भारतात् पूर्वम् ॥

This may be construed as कल्पादेः भारतात् गुरुदिवसात् पूर्वम् । and that is how it is usually done. But let us put this in proper prose order :

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1 Cf. Vy. 99 ऐलवंशस्य ये ख्यातास्तथैवैक्ष्वाकवां नृपाः ।
तेषामेकशतं पूर्णं कुलानामभिषेकिणाम् ॥ ४५१

2 See D. R. Manakd : Pre-Mahābhārata Solar Dynasty in Bhāratiya Vidyā 1942 2nd issue.

काहो? मनवो ढ, मनुयुगाश्च पूर्वम्, कल्पादेः ते च, भारतात् गुरुदिवसात् च, मनुयुगछ्ना च, युगपादा ग च गताः ।

I would translate this thus : "What is a day ? 14 Manus. There are 72 Manuyugas. From the start of Kalpa they 6 (i. e. manus 6), and from the Bhārata Thursday, manuyagas 27 and yugapādas 3, have passed previously i. e. before now."

If we do not translate as I have done, what will be the force of 'ca' after 'gurudivasāt' ? Why is that 'ca' put ? Therefore, Āryabhaṭṭa means : "Previous to this, i.e. before now (pūrvaṃ), from the kalpādi and from the Bhārata Thursday, 6 manus, 27 caturyugas (which are here significantly called manuyagas) and 3 yugapādas have passed." That this is the only sense that can be given to this statement, will be clear to every reader from what I have said previously and from what I shall say now. Kalpa here will mean the start of Svāyambhuva Manu's manvantara.

Thus on examining why we take the present caturyuga to be the 29th of the 8th manvantara, we have incidentally proved that a caturyuga was taken as a ruling unit, that a manvantara was taken as closed after the death of the 71st king, that a new manvantara was taken as started after the 71st king and that with this 71st king Mahābhārata war ended.

2. Yuga of 1000 years

Now let us consider one other point which arises from this discussion. We have said that a yuga was first computed at 1000 years and later at 1200 years, as a caturyuga (bigger) was first computed at 4000 years and later at 4800 years. We shall now proceed to see if there are any positive proofs for this.

It will be seen that in the reign of Parikṣit and Janamejaya, there was a lot of Puranic activity. Bhārata was written. Purāṇas were recast. Vedas were finally arranged. It was at that time that 71 caturyugas from Vaivasvata Manu were over i. e. 71 ruling units were over. We have taken Abhimanyu as the 71st, so Parikṣit was the 72nd. It was in the 11th regnal year of Parikṣit that this reconstruction was made.[1] One man-

1 I have based this statement on the fact that according to Romaka theory a yuga had 2850 years. Now Romaka theory does not recognise manvantara, kalpa etc. See (Bhāratiya Jyotiṣas'āstra, by S. B. Dikshit, p. 155);

(*continued on the next page*)

vantara was closed and, as I hope to show in future, there was a traditional reason to close the line at the 71st king, from Manu, so a new manvantara was taken as started with Parikṣit, the 72nd king. This activity of revision and reconstruction seems to have continued in the reign of Janamejaya also. Still we find that the genealogical lists were closed finally in the days of Adhisīmakṛṣṇa, as he is taken as the sāmprata king. Why was it so? Adhisīma is not a famous king otherwise. He was the great-grandson of Janamejaya and thus removed by only two degrees from him. And as all was practically recently reconstructed, what was the reason of taking Adhisīma as the sāmprata king and of closing the king-lists in his days? I shall answer.

Taking Abhimanyu to be 71st king-unit, Adhisīma will be 76th from Manu and taking that, as yet, a yuga of 1000 years only was in vogue, we shall see that the third yuga or the Dvāpara closed with the death of the 75th king named As'vamedhadatta ($75 \times 40 = 3000$). Just as manvantara was closed after Abhimanyu, Dvāpara was over after As'vamedhadatta. Thus Dvāpara was over five ruling generations or 200 years after the manvantara was over. Lists were closed in the days of Adhisīma and Divākara, because such an important event as the closing of a yuga had happened then.

If this is true i. e. if a yuga was computed at 1000 years and if Dvāpara was over with the reign of As'vamedhadatta, whom we have taken to be 75th from Manu Vaivasvata, then Kali should have been over 25 ruling generations after As'vamedhadatta or with the 100th king. We have seen that both Sumitra and Kṣemaka were 100th kings. Thus the Kali should have been over in their days or with them. Is there any indication of Kali closing in the days of Sumitra and Kṣemaka?

(continued from the previous page)

युगमन्वतरकल्पाः कालपरिच्छेदकाः स्मृतावुक्ताः।

यस्मान्न रोमके ते स्मृतिबाह्यो रोमकस्तस्मात् ॥

This means that Romaka did not recognise the manvantara, yugas and kalpas as known to others Therefore, his yuga of 2850 years is distinct. I suggest that his yuga is here equal to manvantara. If so, according to Romaka, manvantara was closed 2850 years after Manu i. e. according to our key ($2850 \div 40 = 71.25$) in the 72nd king's reign or to be exact after 10 years had passed of the rule of the 72nd king i. e. of Parikṣit.

I have to submit that Purāṇas very clearly declare that Kali had closed with both these. I shall quote from Vāyu :

ईक्ष्वाकूणामयं वंशो सुमित्रान्तो भविष्यति
यतस्तं प्राप्य राजानं संस्थां प्राप्स्यति वै कलौ । (कलिः)
(99, 992-93)

and again क्षेमकं प्राप्य राजानं संस्थां प्राप्स्यति वै कलौ (99, 279)

And apart from these definite statements there is a very strong corroborative proof for this in the Purāṇas. I have shown elsewhere[1] that Sumitra and Kṣemaka were contemporaries of Kalki. And all our literature loudly proclaims that with Kalki Kaliyuga ended and Kṛtayuga started. I shall only give two quotations :

Agni (16th) कल्की विष्णुयशःपुत्रो याज्ञवल्क्यपुरोहितः ।
उत्सादयिष्यति म्लेच्छान्गृहीतास्त्रः कृतायुधः ॥ ८
स्थापयिष्यति मर्यादां चातुर्वर्ण्ये यथोचिताम् ।
आश्रमेषु च सर्वेषु प्रजाः सिद्धवर्त्मनि ॥ ९
कल्किरूपं परित्यज्य हरिः स्वर्गं गमिष्यति ।
ततः कृतयुगं नाम पुरावत् सम्भविष्यति ॥१०

Here it is said that Kṛta started with the death of Kalki. Bhāgavata (12, 2) :

शम्भलग्राममुख्यस्य ब्राह्मणस्य महात्मनः ।
भवने विष्णुयशसः कल्किः प्रादुर्भविष्यति ॥ १८
अश्वमाशुगमारुह्य देवदत्तं जगत्पतिः ।
असिना साधुदमनमष्टैश्वर्यगुणान्वितः ॥ १९
विचरन्नाशुना क्षोण्यां हयेनाप्रतिमद्युतिः ।
नृपलिङ्गच्छदो दस्यून्कोटिशो निहनिष्यति ॥ २०
... ...
यदावतीर्णो भगवान्कल्किर्धर्मपतिर्हरिः ।
कृतं भविष्यति तदा प्रजासूतिश्च सात्त्विकी ॥ २३

Here Kṛta is said to have started with the birth of Kalki. Therefore, Kali was over with Kalki who was a contemporary of Sumitra.

And as Sumitra and Kṣemaka were 25th kings (i.e. king-units) from the present kings, a yuga of 1000 years (25 × 40) was over with them. This will, therefore, show that upto the end of Sumitra's reign, yuga was computed at 1000 years and therefore

1. See D. R. Mankad; Kalki—the Earliest check to Buddhism in New Indian Antiquary, January, 1942.

caturyuga at 4000 years. We have already seen that Sumitra and Kṣemaka both were at one time, taken as 100th kings from Manu Vaivasvata. So, with them or 10 years after them the mahācaturyuga also was over.

Now I submit that just as there was reconstruction of our traditions in the reigns of Parikṣit and Janamejaya, so was there another readjustment in the reign of Sumitra. It was at this time, i.e. when one mahācaturyuga of 4000 years was over, that a yuga was taken to have 1200 years and caturyuga to have 4800 years. The reason for this change was the following.

Purāṇakāras in or after Sumitra's time found that a manvantara was closed with the death of the 71st king, but the yuga (dvāpara) was closed five generations later i. e. after the death of 75th king.

Now Brahmapurāṇa preserves a tradition[1] that a manvantara was over after 70 caturyugas or ruling generations. Thus manvantara was either closed after Arjuna i. e. Yudhiṣṭhira (70th) or Abhimanyu (71st). That it closed after the 71st king was the general belief. But now in the days of Sumitra they found that between the close of the manvantara and the close of the yuga (dvāpara) there was a gap of 4 or 5 generations i.e. of 160 or 200 years. Usually it was expected that with the close of the manvantara the yuga also should close. But it had not been so. Yuga had ended 200 years too late. What was to be done? The simple thing was to say that the yuga had 1200 years instead of 1000 years; and thus it was taken that each yuga had 1200 years and caturyuga 4800 years.

But Kali had closed in the days of Sumitra. Now we shall call the Kali of 1000 years the real Kali and Kali of 1200 years the amended Kali. Thus the real Kali had started 1000 years before Sumitra i.e. with the reigns of Divākara and Adhisīma, the sāmprata kings. But now this amended Kali should start 200 years earlier. Thus the amended Kali was taken as started after the 70th king or with Abhimanyu and Bṛhadbala. 70 kings ruled before Bṛhadbala and Abhimanyu i. e. 2800 years had passed before them. But if the amended Kali started with Bṛhadbala and Abhimanyu, the other three yugas, i e. the amended three yugas, should have 3600 years before Bṛhadbala

1 See Br. V, 54-55.

and Abhimanyu. Actually only 2800 years had passed before him but 800 years more were added to that and thus it was that 3600 years (i.e. 3 yugas each of 1200 years) had been taken as over before Abhimanyu the 71st king. From Bṛhadbala and Abhimanyu to Sumitra and Kṣemaka there will be 1200 years (Bṛhadbala and Abhimanyu being 71st and Sumitra and Kṣemaka 100th).

In my paper on 'Pre-Mahābhārata Solar Dynasty' I have shown that Bṛhadbala's original number was 71st from Vaivasvata Manu, but it was brought down to 91st by the Vāyu school by inserting eight kings between Manu and Rāma and by appending eleven or twelve kings of the Lava-branch after Vyuṣitāś'va. I shall here explain why Vāyu school has done this.

We have just seen that in the days of Kalki and Sumitra, priests pushed back the beginning of Kali by 200 years, and in order to adjust these 200 years, said that the yuga had 1200 years and the caturyuga (bigger) had 4800 years. But this adjustment was not so easy. On pushing back Kali by 200 years and putting its beginning at Mahābhārata war, they found that there were 30 ruling units from Bṛhadbala to Sumitra. That gave them the necessary 1200 years for Kaliyuga (and also the advantage that manvantara and yuga closed together). But they found that in actuality only 2800 years had elapsed before Bṛhadbala (70 ruling units) and they now wanted 3600 years to have elapsed in order to make every yuga of 1200 years. Thus they found that they were short by 800 years at the end of the 70th generation. How were these 800 years to be adjusted ? At the rate of 40 years for a ruling unit, the genealogies would require $(800 \div 40) = 20$ more kings. How should they be produced ? Already Vyuṣitāś'va or S'aṅkhana and S'rutāyu were taken as 71st kings. Bṛhadbala, as belonging to Lava branch (minor branch), was not taken into account both by Bṛ. school and Mt. school and upto now also by Vy. school. So the Vāyu school now thought of making use of this branch of Lava and just appended the kings of that line to the line which ended at S'aṅkhaṇa or Vyuṣitāś'va. Originally Bṛhadbala was 71st. Now they found that he should be 91st as 20 kings had to be inserted between Manu and Bṛhadbala. They added about 12 or 13 kings of Lava line just at the end of the lists and inserted 7

or 8 other kings earlier before Rāma. Thus these Purāṇas of Vāyu school came to have their present Aikṣavāku genealogy which otherwise substantially agrees with other Purāṇas of Bṛ. school.[1]

Thus 1200 years after the Mahābhārata war it was settled that 3600 years should be taken as elapsed before that war, though actually only 2800 years had elapsed before that war (of course, from Manu Vaivasvata).

This tradition gained ground and in later days, i. e. in days later than Sumitra, all chronology would naturally procceed on the basis that a yuga had 1200 years, that from Manu 3600 years had elapsed before the Mahābhārata war and that 1200 years had elapsed from Mahābhārata war to Sumitra. Thus in all 4800 years were taken as elapsed from Manu to Sumitra (though in reality only 4000 years had elapsed between them).

3. Yuga of 1200 years.

That such a tradition of a yuga of 1200 years etc., was known to Purāṇas in 325 B. C., is proved from the following.

There are two places in the Fragments of the Indika of Megasthenes which are helpful to us in this connection.

First is the Fragment L. C. (Pliny, Hist. Nat.) which runs thus:[2]

"From the days of Father Bachhus to Alexander the Great their kings are reckoned at 154 whose reigns extended over 6451 years and 3 months."

Second is from Solin which runs thus:[3]

"Father Bachhus was the first who invaded India and was the first of all who triumphed over the vanquished Indians. From

1 General tradition took a difference of one yuga between Rāma and Kṛṣṇa, that is, there were 1000 years or 25 king-units between them. But Rāma was really 57th and Kṛṣṇa 70th. There were only 13 king-units between them. So, they put 12 kings between Rāma and Kṛṣṇa and 8 more before Rāma, and thus added 20 in all. And this is what we actually find in Vy. It adds Bala and 11 others from Puṣya to Bṛhadbala and 8 more (viz., Anaraṇya, Trasadas'va, Haryas'va, Vasumanā, Kṛtas'arma Vis'vamahat, Dīrghabāhu and Ailavida) before Rāma.

2 Tr. by MacCrindle, Calcutta, 1926, p. 116.

3 Ibid p. 115.

him to Alexander the Great 6451 years are reckoned with 3 months additional, the calculation being made by counting the kings who reigned in the intermediate period to the number of 153."

Now taking Megasthenes' statement to refer to 325 B. C., Bachhus, according to the calculation given by him, will have lived in (6451 + 325 =) 6776 B. C. And as all our post diluvian chronology starts with Vaivasvata Manu, so Vaivasvata Manu's time was taken to be 6776 B. C. in the days of Megasthenes.

But were there 153 or 154 kings and 6451 years between Manu and Alexander ? Fergusson tried to explain this number 153 thus: According to him (History of Indian and Eastern Architecture p.712) "this number is eminently satisfactory as it seems clear that we possess in the Puranas the same lists as were submitted to the Greeks in the fourth century B. C. In the solar lists we have in the Tretāyuga 62 reigns from Ikṣavāku to Rāma. For the Dvāpara age we have three solar lists: one from Kus'a to Bṛhadbala, 35 reigns; another from Diṣṭa to Janamejaya, 33 reigns; a third from the son of Sīradhvaja, the father of Sīta to Mahabasi, 34 reigns. In the Kaliyuga we have no complete solar lists, but the lunar list gives fifty descents from Jarāsandha to the last Nanda. This gives 145 or 146 reigns."

This apparently means that Fergusson has added the number of kings from Sahadeva to Nanda to the total number of kings of the Solar dynasty which, according to him, will have about 63 + 33 = 96 kings. Thus he gets 96 + 50 = 146. But Fergusson is wrong when he takes 50 kings from Sahadeva to Nanda. According to the unanimous verdict of the Purāṇas, Candragupta Maurya is 40th from Sahadeva (cf. Table III), and not 50th. Fergusson's error is possibly due to taking 32 kings for the Bṛhadratha dynasty according to Vāyu. But there were only 22 kings in that line after the Mahābhārata war, though there were 32 kings from Bṛhadratha to Ripuñjaya. Thus Fergusson's number should have been 136 and not 146 and 136 falls short of 153 by 17.

Let us, therefore, inquire ourselves about this. Candragupta, at whose court Megasthenes lived, was Candragupta Maurya according to most of the scholars, but some Indian scholars take him to be Candragupta I of the Gupta dynasty. Let us see when these two kings flourished according to the Purāṇas.

Following the Solar line we find that the number of Bṛhadbala who died in the Mahābhārata war, as actually found in the Purāṇas to-day, varies from 80th to 95th. Therefore, Candragupta Maurya, who was 40th after Mahābhārata war, will be (80 + 40) = 120th or (95 + 40) = 135th from Manu Vaivasvata. Thus between Purāṇas and the statement of Megasthenes there is a difference of about 20 kings. That will not do.

Let us then, consider the case of Candragupta I. According to Kaliyugarājavṛttānta of Bhavis'yottara[1], after the Mahābhārata war, the following dynasties ruled for the periods noted against them :

TABLE III

Dynasty	No. of kings	No. of total regnal period
Bṛhadratha	22	1006
Pradyota	5	138
S'aiśunāga	10	360
Nanda	9	100
Maurya	12	316
S'uṅga	10	300
Kaṇva	4	85
Andhra	32	506
	104	2811 − 4 = 2807

Thus, according to this Purāṇa 104 kings ruled after the war and before the beginning of the Gupta dynasty. Therefore, Candragupta I will be 105th from Sahadeva. If we now add 80 or 95 (the Solar kings before the war), we find that Candragupta I will be 185th or 200th, both of which figures do not tally with Megasthenes' figure.

Let us then follow the Lunar line. In fact, we should not follow the Solar line, as the Kali dynasties in all the Purāṇas are always put in direct continuation of the Bṛhadratha dynasty which is a Lunar dynasty. Now Sahadeva of the Magadha dynasty, is 48th from Manu according to Mt. 38th according to Bg. 46th according to Vy. and 41st according Vn.

1 As quoted by M. Krishnamachariar in his Classical Sanskrit Literature page lxxviii and also by Jagannath Rao in his 'Age of Mahābhārata War.'

Now Candragupta Maurya, in order to be 153rd from Manu, will require (153 – 40 his own number after the war) = 113 kings before the Mahābhārata war. So, he could not have been a contemporary of Megasthenes, for the Lunar line does not show more than 57 kings in any of its branches before the war. But Candragupta I will require (153 – 105) = 48 kings before the Mahābhārata war. And we find that according to Matsya Sahadeva was actually 48th. Thus according to Purāṇas, Candragupta I was 153rd from Vaivasvata Manu.

Therefore one who was the contemporary of Megasthenes and Alexander and was 153rd from Bachhus, was not Maurya Candragupta but Candragupta I of the Gupta Dynasty. Even Megasthenes testifies to it, or in other words, that was the Puranic tradition supplied to Megasthenes.

Thus we find that Megasthenes' statement about 153 or 154 kings intervening between Bachhus and Alexander is in complete agreement with the Puranic traditions.

Now let us see if 6451 years elapsed between Bachhus and Alexander. According to Megasthenes, Bachhus will be put in 6451 + 325 = 6776 B. C. From the table that I have just given, it will be found that, 2807[1] years had elapsed from the close of the Mahābhārata war to the beginning of the Gupta dynasty, i. e. upto the end of the Āndhra dynasty. But the post-Mbh genealogical calculations in the Purāṇas start with the accession of Parikṣit. Now Parikṣit was 72nd according to caturyuga method ; therefore, 2840 (71 × 40) + 800 (of the amended yugas) = 3640 years were taken as elapsed from Manu to Parikṣit. Adding these 3640 to 2807 we get 6447. Thus there is a difference of 4 years between Megasthenes' figure and the Puranic figure. Therefore, Megasthenes' statement calculates upto the 5th regnal year of Candragupta I.

Now let us apply this to Candragupta Maurya. After the war, we have 1006 years for Bṛhadrathas, 138 for Pradyotas, 360 for S'aiś'unāgas and 100 for the Nandas. Thus we will have 1604 or 1600 years from Sahadeva (who was 72nd) to the

1 I have taken 2807 years, though the table shows 2811 years, for the total of the first three dynasties, according to this table, is 1504 years, but as according to the very clear evidence of all other Purāṇas (which I shall detail in my future papers) these first three dynasties had 1500 years in all. Therefore, I have deducted four years from its total.

accession of Candragupta Maurya. Adding 3640 years (from Manu to Sahadeva) we get 5240 years, which is nowhere nearer the figure of Megasthenes. Therefore also Candragupta Maurya was not a contemporary of Megasthenes.

This will show that the tradition which Megasthenes notes is absolutely in keeping with the Puranic genealogies as we have them to-day, both in the number of years and in the number of kings. It thus shows that most of the Puranic tradition was the same then as it is now. It further proves that in 325 B. C. Purāṇas took a yuga to have 1200 years and not 1000 years (for the figure of Megasthenes will tally with the Puranic figures only if we take 3600 years for the first three yugas and not 3000).

But it may be objected that I have here relied upon Bhaviṣyottara which may not be very reliable. But in a future article[1] I have examined the question of the chronology of the Kali dynasties upto the start of Guptas, and proved that in reality there is no difference between the various conflicting figures seen in different Purāṇas.

4. Caturyuga of 40 years.

Thus they amended the yuga system and to suit it they amended the genealogies. But, it will be seen that when in later days, this matter of the amendments was not clearly remembered, dim memories of a bygone system may sometimes cause confusion and sometimes preserve the true tradition.

Caturyuga of 40 years was long known, but after the yuga was taken to have 1200 years, it, very conveniently, became a sub-yuga of a bigger yuga. Let us see how. Caturyuga of 40 years will have four basic yugas each of 10 years called Kṛta, Tretā, Dvāpara and Kali, and the caturyuga of 4800 years will have four basic yugas each of 1200 years. Now we shall name the sub-yugas of the caturyuga of 40 years as laghukṛta, laghutretā, laghudvāpara and laghukali and the sub-yugas of the caturyugas of 4800 years as mahākṛta, mahātretā, mahādvāpara and mahākali. Laghukṛta etc. will have 10 years each, mahākṛta etc. will have 1200 years each. Caturyuga of 40 years will be called laghu-caturyuga and the caturyuga of 4800 years will be called mahācaturyuga.

1 To appear shortly in Poona Orientalist.

Now each of the mahāyugas will have 30 laghu-caturyugas (1200÷40=30). That is, in mahākṛta etc. there will be 30 laghukṛtas, 30 laghutretās, 30 laghudvāparas and 30 laghukalis. Thus laghukṛta etc. will have 10 years each, laghu-caturyuga will have 40 years, mahā-kṛta etc. will have 1200 years and mahācaturyuga will have 4800 years.

Keeping in mind that such a system is possible only after the amended yuga system (of 1200 years) came in vogue, if we read the Purāṇas, several passages seem to corroborate such a system.

There are Puranic passages[1] in which Devāpi and Maru are described as the founders of new kṣatriya lines in the 29th caturyuga. These passages, for some reasons which I shall explain in future, take Devāpi and Maru as contemporaries of Sumitra. Therefore, this is obviously the laghu-caturyuga of the amended mahākali. It refers to the 29th caturyuga after the 28 caturyugas or yugākhyās were over with or after Sumitra. Thus this mention of 29th caturyuga positively proves that the yuga of 1200 years had come into existence, for in a mahāyuga oi 1000 years, the 29th caturyuga (of 40 years each) will never be possible.

But we have another reference. Almost all the Purāṇas, in one or the other way, say that Vyāsa Dvaipāyana lived in the 28th Dvāpara. There are some Purāṇas which give avatāras, where they point out that Vyāsa Dvaipāyana and Kṛṣṇa also lived in the 28th dvāpara and Vyāsa Parāś'ara in the 26th dvāpara.

Now which dvāpara is this? Dvaipāyana Vyāsa lived at the Mahābhārata time and we know that real Kali ended 200 years later than Mahābhārata war. 28th dvāpara of this real Kali of 1000 years is not possible, as a mahāyuga of 1000 years will have only 25 laghuyugas. Therefore, this dvāpara refers to the amended yuga system.

Now amended Kali started and amended Dvāpara ended in 3176 B. C. So the 28th dvāpara of the preceding mahādvāpara will close 80 years earlier, i. e. in 3256. This is a possible date (of birth) for both Dvaipāyana and Kṛṣṇa if we take their lives to have been of more than 80 years. Similarly, 26th dvāpara of the mahādvāpara

1 Cp. Mt. 273rd, 56-58; Vy. 99th, 437-440; Bd. 3, 74, 250-253.

(i.e. 80 years earlier than Yudhiṣṭhira and Kṛṣṇa) is possible for Parās'ara, as he was a contemporary of Vicitravīrya who was three degrees senior to Abhimanyu.

Thus both these calculations are based on amended yuga-system.

Again it is said that Rāma (Dās'arathī) lived in 24th or 27th tretā (more probably 27th tretā). This too refers to the amended yuga system, Rāma is usually placed in Tretā, i. e. in the 27th laghutretā of mahātretā. Therefore, according to the amended yuga system, Rāma will be removed from Manu by (30 laghu-caturyugas of mahākṛta and 27 laghu-caturyugas of mahātretā i. e. in all by) 57 laghu-caturyugas. And we have found that in the genealogies his real number was 57th[1]. Again between Rāma and Kṛṣṇa usually one mahāyuga is believed to have elapsed. If Kṛṣṇa and Dvaipāyana were in the 28th dvāpara of the mahādvāpara, Rāma must be in the 27th tretā of the mahātretā. (Of course, actually the difference between Rāma and Kṛṣṇa was not of 1200 years but of $(70-57=13\div 40=520)$ about $500-525$ years, as Kṛṣṇa, along with Yudhiṣṭhira was 70th. Thus, Rāma's actual date will be $(3201-525=3726)$ cir. 3725-50 B. C.

But it is said that Māndhāta was in the 15th yuga, i. e. caturyuga. Now here the calculation is based upon the yuga system when the number of kings was not harmonised with the number of caturyugas. Thus Māndhāta, though 20th from Manu, was in the 15th caturyuga from Manu i. e. was removed from Manu by about $15\times 40=600$ years. (It is, therefore, possible that the kings of the mahākṛta, i. e. the first 25 kings of the Ikṣavāku dynasty are kept in tact. No king is omitted from them, 2nd method of samāsa and vyāsa being applied only from the kings of Tretā i. e. mahātretā downwards.) Thus, Māndhāta's real date will be 5976 B.C. (Manu's real date) $-600=5376$ B. C.

These pieces of evidence should, I believe, prove beyond all doubts, that at some time of our Puranic traditions, a yuga of 1200 years and its sub-divisions into smaller yugas of 40 years were in vogue. This time must have been from Sumitra to the Gupta period at least.

1 In my paper on Pre-Mahābhārata Solar Dynasty already referred to.

Thus it will be seen that what looked as bold presumptions on my part in the beginnig of this undertaking, have been proved to be solid facts. We have seen that yugas were of equal lengths—first of 1000 years (upto the days of Sumitra) and then of 1200 years (at least upto the rise of the Guptas); that caturyuga of 40 years was utilised for the purposes of chronological calculation, that this caturyuga of 40 years, which was the basis of Manvantara computation, was taken as a king-unit and that the king-lists of the Purāṇas preserve the names of these king-units.

And this is what I call Manvantara-Caturyuga method. I shall show in my future article[1], that this method was used by the Purāṇas upto the end of the Mauryas and then abandoned, though its nature was thoroughly known to them even upto the end of the Āndhras.

1 To appear shortly in Poona Orientalist.